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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,421	02/22/2001	Koichi Fukasawa	FUKASAWA 2	9136

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EXAMINER

LEE, EUGENE

ART UNIT PAPER NUMBER

2815

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/763,421

Applicant(s)

FUKASAWA ET AL.

Examiner

Eugene Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, in claim 32, a sphere of a bottom surface of the light emitting diode element must be shown or the feature(s) canceled from the claim(s). None of the figures show the bottom surface of the light emitting diode element as a sphere.

In claim 33, the recess is constructed from a hole formed in a plate-like top side electrode extending to the position in which the light emitting diode element is placed, wherein a plane sphere of the hole is substantially the same as a sphere of a bottom surface of the light emitting diode must be shown or the feature(s) canceled from the claim(s). None of the figures show the hole or the bottom surface of the light emitting diode as being a sphere.

Also, in claim 35, a plurality of light emitting diode elements firmly affixed to the top surface of the base by the adhesive, and an upper surface of the light emitting diode elements being sealed by a resin seal member must be shown or the feature(s) canceled from the claim(s). None of the figures show a plurality of light emitting diode elements on a base and then having those plurality of light emitting diode elements being sealed by a resin seal member. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 33 is objected to because of the following informalities: the limitation “is place” is unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 32 thru 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what the applicant is referring to in the limitation “a plane sphere of the recess being substantially the same as a sphere of a bottom surface of the light emitting diode element.” It is not known what a “plane” sphere is and how that differs from a regular sphere. It appears that a plane sphere is a sphere formed in a plane surface, however, appropriate clarification and correction are required. It is also not clear how the bottom surface of the light emitting diode element can be a sphere. It appears from the applicant’s disclosure that the bottom surface of the light emitting diode element is rectangular.

In claim 33, it is unclear what the applicant is referring to in the limitations “the recess is constructed from a hole formed in a plate-like top side electrode extending to the position in which the light emitting diode element is place, wherein a plane sphere of the hole is substantially the same as a sphere of a bottom surface of the light emitting diode.” There is no hole in a plate-like top side electrode that can be described as a plane sphere.

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In claim 35, it is unclear what the applicant is referring to in the limitation "a plurality of light emitting diode elements firmly affixed to the top surface of the base by the adhesive, and an upper surface of the light emitting diode elements being sealed by a resin seal member." There is no plurality of light emitting diode elements on a base and having those plurality of light emitting diode elements sealed by a resin seal member.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Insofar as definite, claims 32 thru 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komoto et al. 6,340,824 B1 in view of Knaebel 4,152,624. Komoto discloses (see, for example, FIG. 65) a light emitting device 100H comprising a lead frame (base) 110, fluorescent layer (adhesive containing fluorescent material) FL, light emitting element (light emitting diode element) 990, and resin (resin seal member) 140. The lead frame contains a recess that prevents the fluorescent layer from flowing away and ensures a predetermined thickness of the fluorescent layer. In column 36, lines 17-21, Komoto discloses the lead frame as reflective. Komoto does not disclose a plane sphere of the recess being substantially the same as a sphere of a bottom surface of the light emitting diode element. However, Knaebel discloses (see, for example, FIG. 2) a light emitting device 57 contained in a spherical cavity 51. Such a cavity completely surrounds the light emitting device so that any emitted light does not scatter.

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In addition, the cavity permits easy access with exterior electrodes. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include the spherical cavity (a plane sphere of the recess) of Knaebel in Komoto's invention in order to prevent the scattering of light and to permit connection with exterior electrodes.

7. Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komoto et al. '824 B1 in view of Knaebel '624 as applied to claims 32-34 above, and further in view of Oshio et al. 6,274,890 B1. Komoto in view of Knaebel does not disclose a blue light emitting diode element made of a gallium nitride semiconductor or a silicon carbide semiconductor. However, Oshio discloses (see, for example, column 12, lines 42-44) a blue light emitting element comprising a GaN compound material. It was well known in the art to use GaN in light emitting elements because of their high band gaps, which make light emission more efficient, especially in the production of blue light. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use a blue light emitting diode element made of a gallium nitride semiconductor in order to have a light emitting element that has efficient light emission and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding the limitation "plurality of light emitting diode elements", Komoto in view of Knaebel does not disclose a plurality of light emitting diode elements. However, it would have been obvious to one of ordinary skill in the art at the time of invention was made to make a plurality of light emitting diode elements, since it has been held that mere duplication of the

essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Response to Arguments

8. Applicant's arguments with respect to claims 32-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 703-305-5695. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Eugene Lee
November 2, 2003


GEORGE ECKERT
PRIMARY EXAMINER